



# Western Pacific Region Airports Division



# AirporTopics

San Francisco Airports District Office  
831 Mitten Road, Room 210  
Burlingame, CA 94010  
(650) 876-2775  
(650) 876-2733 Fax

Airports Division Regional Office  
P.O. Box 92007 World Way Postal Center  
Los Angeles, CA 90009-2007  
(310) 725-3600  
(310) 725-6847 Fax

Honolulu Airports District Office  
P.O. Box 50244  
Honolulu, HI 96850  
(808) 541-1232  
(808) 541-3462 Fax

## SUMMER 1999

### **Mandatory Y2K Airport Safety Inspections Proposed**

The Federal Aviation Administration (FAA) is proposing a Special Federal Aviation Regulation (SFAR) that would require operators of airports certificated under 14 CFR Part 139 to identify and address any unforeseen problems with computerized airfield equipment and systems that are date-sensitive. This SFAR would require these airport operators to conduct a one-time readiness check of certain airfield safety equipment and systems starting January 1, 2000, and report the results of these checks to the FAA. In addition, this proposal would temporarily revise the time period these airport operators have to repair or replace certain emergency equipment.

An electronic copy of this proposed SFAR is available on the FAA's web page at [www.faa.gov/avr/arm/nprm/nprm.htm](http://www.faa.gov/avr/arm/nprm/nprm.htm) or the Government Printing Offices WebPages at <http://www.acces.gpo.gov/nara>. Copies of this rulemaking also may be obtained by calling the FAA's Office of Rulemaking at (202) 267-9680. For further information, contact Bob David, Manager of FAA's Airport Safety and Operations Division at (202) 267-8721.

### **Grant Descriptions, Please**

Airport Managers: Please recall that work shown in the plans and specifications for AIP projects needs to reflect the grant description.

We request that you provide your design engineer with an exact true copy of the grant description and any amendment(s) to the description. This will help expedite the process for design completion, approval and subsequent bidding of the plans and specifications.

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### New Policy Guidance ALP Review and Approval Process

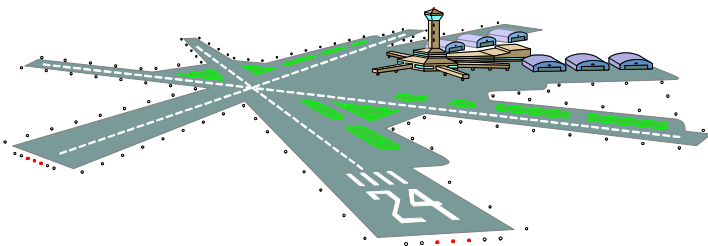
Effective January 14, 1999, the Western-Pacific Regional Office implemented new policy guidance in regard to the review and approval of all Airport Layout Plans (ALP) throughout the region, including our two Airport District Offices in Burlingame, CA and Honolulu, HI. Although this guidance was written for internal agency use, we feel it would be very beneficial for all of our airport sponsors and consultants to use as a reference when processing an updated or draft copy of an ALP drawing/set for review and approval **or** revalidation, whichever is applicable for obligated airports. Non-obligated airports are not required to submit ALPs, but any airport will benefit from a plan that reflects current Federal Aviation Administration design standards and planning criteria.

The purpose of establishing this policy guidance was to clarify our responsibilities and administration in regards to the processing of an Airport Layout Plan drawing/set for Western-Pacific Regional Airport Division offices.

The pertinent issues covered by the policy are:

- a. Requirements for Submission
- b. Submission Packages
- c. Assignment of Responsibilities
- d. Coordination Requirements
- e. Review and Final Approval Process

It should be noted that "Modification of Airport Design Standards" requires FAA approval and will be evaluated as part of the ALP coordination process. Guidance on requesting a modification is discussed within the new policy. Copies of the new policy may be acquired by calling Margie Drilling at 310-725-3628 or via e-mail at [margie.drilling@faa.gov](mailto:margie.drilling@faa.gov).



### Rent Free Airport Space for Eligible FAA Facilities

Under the terms of the assurances contained in Airport Improvement Program grant agreements, airports are required to provide no-cost space in airport facilities, or rent-free airport land for the FAA to construct at its own cost facilities for air traffic, navigation, weather reporting, and communication activities. More often than not, airport land has been provided to the FAA free of cost. However, the FAA has not consistently exercised its right to receive space in airport buildings on a cost-free basis. Airport sponsors become obligated to provide rent-free space/land upon the execution of a grant agreement and remain obligated during the life of the grant(s).

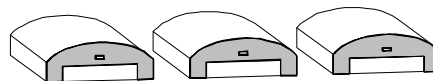
Beginning October 1, 1999, as existing leases expire or new lease requirements are identified, the FAA will advise airport sponsors of the FAA right to rent-free space and negotiate with the airport sponsor to exercise that right when it is appropriate to do so.

The following facilities qualify for rent-free space:

Traffic Control Tower  
Combined Center Radar Approach Control  
Contract Weather Observation Station  
Flight Service Station  
Radar Approach Control  
Terminal Approach Radio Control

Rent-free space includes storage and parking for official FAA vehicles essential to the covered activity that directly supports the operation of the referenced facilities.

Leases for space that accommodate covered activities will become eligible for free rent when current leases expire and are renewed, unless other legally binding agreements govern.



### Procurement of Professional Services

This article is to help clarify sponsor requirements when requesting proposals for services in conjunction with an Airport Improvement Program (AIP) grant.

It has been noted by this office that procedures for procuring professional consultant services, for engineering and planning, have had instances where sponsors are requesting cost or pricing information for submission with their RFP/RFQ (Request for Proposal/Request for Qualification) proposals. The RFP/RFQ **may not contain a request for any type of pricing data, including workhours.**

Section 511(a)(16) of the Airport and Airway Improvement Act (AAIA) of 1982, as amended, states: **“each contract or subcontract for program management, construction management, planning studies, feasibility studies, architectural services, preliminary engineering, design, engineering, surveying, mapping, or related services will be awarded in the same manner as a contract for architectural and engineering services as negotiated under Title IX of the Federal Property Administrative Services Act of 1949 or an equivalent qualifications-based requirement prescribed for or by the sponsor of the airport.”**

Within paragraph 802(b) of the AIP Handbook, FAA Order 5100.38A (dated October 24, 1989), it states: **“A price quotation may accompany the initial submittal by the contractor provided it is in a separate sealed envelope which may not be opened until actual negotiations by the sponsor have begun with that contractor.”**

It has been pointed out that the “sealed envelope” option conflicts with previous General Accounting Office (GAO) decisions (64 Comptroller General 772 and 65 Comptroller General 476). GAO has indicated that even though the selection board evaluating the proposals, did not have knowledge or access to the cost proposals, requesting such information is improper since the “Brooks Act”, enacted October 18, 1972, only provided for cost proposal consideration after final ranking of the firms. It is the accepted methodology for procurements only involving construction contracts or equipment purchases, to publicly request “sealed bids” for a “firm fixed price” contract award.

We therefore strongly recommend, to avoid any conflict with Section 511 (a)(16) of the AAIA or the

Brooks Act, sponsor organizations should refrain from requesting any information which may be perceived as a cost proposal, such as, total cost, cost per chargeable hour, man-hours, workhours, or any other form of pricing data, until after a determination of the most highly qualified architectural/engineering or planning firm has been accomplished. This prohibition includes both formal requests under RFP/RFQs as well as informal requests made during discussions with firms to determine the most highly qualified firm. As a suggestion, consider designating a time frame within the RFP/RFQ, immediately following selection, which requires the consultant to submit their proposal so negotiations may begin thereafter.

Should the cost based methodology be continued, we would not be able to provide federal aid for the resulting professional services contract. This guidance is applicable to airport and planning agency sponsors, including states.

### Announcement Of Safety Newsletter

The Airport Safety and Operations Division in our Washington Headquarters recently published the first of a series of newsletters to keep Airport Certification Safety Inspectors and Airport Operators informed of current developments. The newsletter is representative of FAA’s commitment to serve the airport community and to provide another source of information for them. Additionally, it will provide a means of sharing concerns and identifying problems. The first few issues will be dedicated to the subject of runway incursions and vehicle/pedestrian deviations, a problem of growing concern to the aviation community.

While U.S. airports have established and maintained an enviable safety record over the years, due for the most part to responsible, hard working, and professional airport personnel, vigilance in addressing issues will help maintain that record.

The Airport Certification Safety Inspectors are the FAA’s first resource for timely and specific information. The newsletters are intended to help airports and to address issues of importance that are shared by everyone in the airport business. The Newsletter will be posted quarterly on the WEB. Click on the Newsletter icon on the FAA Airports Home Page. The address is <http://www.faa.gov/arp/arphome.htm>.

## What is The Airports Division's Standards Section?

The Standards Section of the Safety and Standards Branch manages Airport Improvement (AIP) and Passenger Facility Charge (PFC) programs for Southern California and Arizona. The section consists of ten employees. Listed below are the main functions of the Section:

- ✓ Provides guidance on airport design, construction, and maintenance standards to airport operators.
- ✓ Provides guidance on airfield lighting, signage, and electrical power distribution.
- ✓ Provides guidance on construction plans and specifications.
- ✓ Evaluates and coordinates approval of nonstandard construction methods.
- ✓ Updates Airport Layout Plans.
- ✓ Manages airport master planning grant projects (except systems plans, airport noise control and land use compatibility studies, and the FAR 150 Program).
- ✓ Administers grant projects.
- ✓ Reviews land titles for sufficiency of property interest.
- ✓ Reviews and approves airport development plans and specifications.
- ✓ Prepares input to National Plan of Integrated Airport Systems, and joint planning conferences.
- ✓ Monitors airport pavement maintenance management programs.
- ✓ Conducts project inspections.
- ✓ Reviews and evaluates compliance issues to assist airport operators in their resolution.
- ✓ Reviews and resolves audit issues with airport operators

## AIRPORTTOPICS



### Standards Section Staff

Top Row: Rudy Victorio, Manny Escobar, Kevin Flynn, Margie Drilling, Chuck McCormick, Eric Vermeeren, David Delshad

Bottom Row: Ruben Cabalbag, George Buley, Mary Williams, John Milligan (Supervisor)

## Remedial Training For Vehicle Operators

The number of runway incursions tracked by the FAA has risen significantly in recent years, increasing from 186 in 1993 to 318 in 1997. This has occurred despite the fact that FAA and industry have undertaken a number of beneficial actions to reduce runway incursions. As airports become increasingly congested, the FAA and the entire aviation community must pay more attention to the safety of ground operations. The complexity of today's operations have the potential for creating unsafe conditions, especially where aircraft, vehicles, and even pedestrians may find themselves on active runways and in direct conflict with arriving and departing aircraft. Such incidents can have tragic results.

Part 139.329 requires the implementation and training of employees, tenants, and contractors in the safe and orderly access to and operation on the movement areas and safety areas by ground vehicles, including provisions identifying the consequences of noncompliance. The airport owner/operator of a certificated airport must have the capability to enforce its regulations and will be expected to take action when a vehicle/pedestrian deviation occurs on that airport. Airport operators are encouraged to require employees and tenants involved in vehicle deviations to undergo a remedial training program. For further information on any runway incursion program, you are encouraged to contact your Airport Certification Safety Inspector.



# Aircraft Use Of AVGAS V.S. MOGAS

Aviation gasoline (Avgas) is among the most complex of petroleum products, containing a number of physical and chemical properties that must be rigidly controlled. Automotive gasoline (Mogas) is a very sophisticated fuel, usually consisting of a mix or blend of separately distilled petroleum products. In aviation applications, fuel is a safety critical item that demands care and attention in manufacture, distribution, storage and use.

Aircraft engines in the first days of powered flight were identical to engines used in automobiles or motorcycles of the same period. Gasoline, refined through fractional distillation of crude oils, was the fuel used to power most all automotive and aircraft engines. With the continued development of automobile engines and aircraft powerplants, requirements for more suitable and sophisticated fuels increased. The fuels used in automobiles and aircraft today are complex mixtures of hundreds of different hydrocarbon compounds. Fuels differ as to the exact number and proportions of organic compounds, being formulated to meet only general property limits rather than a specified chemical composition. Standard fuel formulations are based on propulsion system demands such as fluidity, combustion properties, corrosion protection, and impurity limitations.

Avgas is the fuel used in aircraft powered by reciprocating engines. While similar to conventional motor gasoline, avgas possesses several important differences. It is generally less volatile and has a lower freezing point than conventional motor gasoline. Also, additives found in avgas include alkyl-lead anti-knock additives, metal deactivators, color dyes, oxidation inhibitors, corrosion inhibitors, icing inhibitors, and static dissipaters. The American Society for Testing and Materials (ASTM) Grades 100 and 100LL Avgas are the most common and widely available aviation fuels. Both grades have octane ratings of 100 and contain about 1.0 and 0.5 grams per liter of tetra ethyl lead, respectively, (considerably more than automotive gasoline(s) currently in use). ASTM specifications ensure the highest quality of aviation gasoline, producing excellent quality fuels that perform well in a wide range of environments and applications. Gasoline engines intended for use in aircraft were designed for and should be operated on one of the ASTM specified grades of aviation gasoline.

The major component of motor gasoline, (autogas, mogas) consists of alkanes, or saturated hydrocarbons, which are stable and burn cleanly. Aromatic compounds make up the

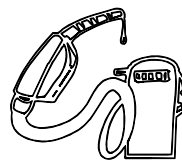
remainder of gasoline formulations. Relatively recent technology has replaced aromatics with less polluting octane boosters such as Methyl-Tertiary-Butyl-Ether (MTBE) and ethanol. Motor gasoline is typically manufactured to much less rigid specifications than aviation gasoline. Performance of these fuels can vary widely as quality control and quality assurance is much less stringent. Octane ratings of mogas may appear similar in number to avgas, but tests to determine the ratings of these fuels have different criteria, eliminating a basis for comparison.

Mogas was first authorized in 1982 as an alternative to aviation fuel for certain small reciprocating engine-powered aircraft possessing a **Supplemental Type Certificate (STC)**. STC's are issued for the use of unleaded or leaded automobile gasoline in small airplanes approved under Part 3 of the Civil Aviation Regulation (CAR) or Title 14 of the Code of Federal Regulations (CFR) Part 23. In actuality, two STCs are required for a single aircraft. One of these STCs pertains to the engine and one covers the airplane. An applicant for a STC must demonstrate through testing of the engine and aircraft that modifications meet all applicable CFR safety measures. To be approved for mogas use, airplanes and engines must meet FAA certification requirements for engine detonation, engine cooling, fuel flow, hot fuel testing, fuel system compatibility, vapor lock, and performance criteria.

An acceptable means of compliance is outlined in Advisory Circular (AC) 23.1521-1B, *Type Certification of Automobile Gasoline in Part 23 Airplanes with Reciprocating Engines*. A STC issued to one airplane does not automatically apply to other airplanes of the same type and model, regardless of whether it is powered by the same engine. More information is available through the FAA Small Airplane Directorate, 601 E. 12th Street, ACE-100, Kansas City, Missouri 64106 or through the Experimental Aviation Association (EAA), P.O. Box 3086, Oshkosh, Wisconsin 54903-3086.

The FAA, EAA, and other organizations have conducted numerous tests of airplanes, engines, and fuels. Additionally, mogas and avgas use has been extensively compared and analyzed. Mogas has proven an acceptable alternative to avgas for the airplanes and engines **authorized** for use under a Supplemental Type Certificate. Based on operational service histories of aircraft that have STCs approved for mogas use, the FAA has determined these aircraft to be as safe as airplanes or engines that use avgas exclusively.

This article was prepared with the assistance of Air Force Center for Environmental Excellence (AFCEE) PRO-ACT Fact Sheet #19206 *Petroleum Fuels: Basic Composition and Properties* and the Internet Web Site of Purvis Brothers, Inc. *Aviation Fuels and Products* section @purvisbros.com.



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The goal of this publication is to report and inform our readers. Comments, suggestions and ideas for future articles are encouraged from our readers. Please forward to AirporTopics, AWP-600, P.O. Box 92007, WPC, Los Angeles, CA 90009.

**Federal Aviation Administration  
Western-Pacific Region  
Regional Airports Division – AWP-600  
P.O. Box 92007 World Way Postal Center  
Los Angeles, CA 90009-2007**